21 JULY 98

MEMORANDUM FOR DISTRIBUTION

From: Code 04

Subj: **ENVIRONMENTAL DESIGN POLICY** (ASBESTOS ABATEMENT, LEAD CONTAINING PAINT, PCBs, and MERCURY CONTAINING LIGHTING FIXTURES)
(Supercedes ASBESTOS ABATEMENT DESIGN POLICY dtd 22 FEB 93)

Encl: (1) Environmental Design Guide
(2) Scope of Work for Performing Asbestos, Lead, PCBs, and Mercury Surveys for Demolition and Renovation Designs
(3) Environmental Fee Preparation Guidance

1. Enclosures (1) and (2) provide direction to A/Es in order to standardize environmental design documentation. This new guidance provided shall be used to determine the acceptable level of design documentation and presentation of the contract plans and specifications. Enclosure (3) is provided for the use of 04 AIC/EICs in fee preparation and Code 03 PMs in Appendix A preparation.

2. Enclosure (1) is available on the Design Division Homepage, www.efdlant.navfac.navy.mil, under the Design Division and then in the "***Design Guides***" section. The design guides can be viewed online or downloaded for printing.

3. The Environmental Design Guide is to be incorporated into the new AE guide. Code 03, 05 and 18 are asked to distribute this information to the appropriate personnel.

W. H. CRONE, P.E.
Director
Engineering and Design Division

DISTRIBUTION:
04
04A
04A1
04A2
04A5
401
402
403
404
405
406
407
408
411
18
03
05
Copy to: 04 Reading File

Enclosure (1)

Environmental Design Guide

CLICK ON LINK BELOW

OR

TYPE IN ADDRESS ON YOUR BROWSER

ftp://www.efdlant.navfac.navy.mil/downl/lantops_04/design_guide_environmental.pdf

Enclosure (2)

SCOPE OF WORK
FOR PERFORMING
ASBESTOS, LEAD, PCBs and MERCURY SURVEYS
for DEMOLITION AND RENOVATION DESIGNS
(AE CONTRACT # N62470-_____)

I. GENERAL REQUIREMENTS

The fee proposal for this project shall include the cost for sampling and analysis of:

[_____] Asbestos bulk samples
[_____] Lead Paint Samples (Bulk and Wipe)
[_____] Composite TCLP lead samples for demolition wastestream categorization

Asbestos bulk samples shall be analyzed by polarized light microscopy (PLM). Lead paint samples (bulk and wipe samples) shall be analyzed by atomic absorption spectrophotometry (AAS). Wastestream samples shall be analyzed using the toxicity characteristic leaching procedure (TCLP) for lead. Additional sample analysis (as determined by the initial analysis and field work) will be paid based on unit prices. Transmission Electron Microscopy (TEM) analysis of selected asbestos bulk materials may be requested by the government. Provide unit costs for the following analyses:

a. Unit cost for PLM/DS analysis - Asbestos $_____
b. Unit cost for TEM analysis - Asbestos $_____
c. Unit cost for AAS lead analysis $_____
d. Unit cost for TCLP lead analysis $_____

II. SAMPLING/WORK PLAN

The sampling/work plan shall indicate items to be sampled, sample locations, sample size, method of collection, method of analysis, and sampling blanks to be collected. Include a proposed schedule for sampling including building area, date and time. This schedule is necessary to coordinate access to secured areas and allow advance notice to building occupants. The schedule must be approved by the activity asbestos program manager (APM) or designated representative prior to sampling. Collect samples during the design site work phase. Refer to Enclosure (1) for additional information on sampling protocol. Notify the APM or designated representative when site work will be performed.

III. DEMOLITION MATERIALS

A. Asbestos

Identify all friable and non-friable ACM that will be impacted by the project as required by 40 CFR 763 Asbestos Hazard Emergency Response Act (AHERA); 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAPs); and 29 CFR 1926.1101 OSHA Occupational Exposure to Asbestos, Construction including but not limited to:

a. All surfacing (spray-applied or troweled-on) materials.

b. All thermal system insulation on pipes, boilers and ducts.

c. All miscellaneous forms such as wallboard and joint compound, ceiling tiles, floor tiles and mastic, and any material suspected of containing asbestos.

Personnel currently maintaining EPA building inspector accreditation for asbestos shall perform the inspections. Specific state or local licensing may be required for the project.

Collect 10% duplicate (side by side) samples of difficult matrix materials (such as; floor tile, mastic, wallboard, joint compound, construction mastics, and roofing).

B. Lead

Evaluate all painted surfaces that will be impacted by the project for lead. If an X-ray Fluorescence (XRF) instrument is used for screening, classify the results as positive, inconclusive or negative according to the EPA Performance Characteristics Sheet for the instrument. Inconclusive results are to be treated as positive for the presence of lead. Negative XRF readings require paint chip sampling and analysis. Collect and analyze 5% of the inconclusive XRF readings to verify the presence of lead. Paint is identified as containing lead for construction projects if **any** levels are present as determined by a valid detection limit (usually 0.01%). Collect soil and wipe samples as necessary to identify potential lead hazards for the project. Use applicable current ASTM, EPA or HUD guidelines for paint, soil and wipe sample criteria.

Personnel currently maintaining EPA building inspector accreditation for lead shall perform the inspections. Specific state or local licensing may be required for the project.

C. PCBs

Evaluate and survey all existing lighting ballasts for the presence of PCBs. The initial survey shall begin with the activity environmental coordinator for PCB disposal records or replacement records. If existing records are available, then document that PCBs are or are not present in the existing ballasts to be removed. If records are not available, then every ballast must be inspected for a "non-PCB" label. Every different type of ballast that exists without a "non-PCB" label must be assumed to have PCBs and should be indicated on the design demolition drawings. Include field survey information and any existing records found in the environmental report for the project.

D. Mercury

Identify all fluorescent and High Intensity Discharge (HID) lighting lamps that will be removed as part of the building renovation or demolition. Currently all fluorescent and HID lighting lamps contain mercury that must be disposed of as hazardous waste. However, since 1998, new low-level mercury lamps have been available for installation in new projects. The field survey shall differentiate between the old mercury lamps (which must be disposed of as hazardous waste) and any new low-level mercury lamps, which are classified as non-hazardous waste. The field survey shall identify all hazardous waste lamps for inclusion in the demolition drawings for the project. The environmental report shall include all documentation from the field survey that provide the hazardous or non-hazardous determination.

IV. AREAS TO BE SURVEYED

The survey shall include:

a. All areas related to the project in buildings and structures, interior and exterior, where ACM or lead-containing materials, and PCB or Mercury-containing lighting fixtures could occur (i.e. For asbestos: building spaces, crawl spaces/attics, steam and hot water piping, furnaces, boiler rooms, asbestos insulated duct work, heat exchangers and any other structures, utility lines or equipment insulated with/or suspected of containing asbestos that may become airborne when disturbed through scheduled construction activities. For lead: all painted structures and surfaces, coatings on steel structures and fuel lines.)

b. Data on ACM located in inaccessible areas as determined by drawings, field inspection and past or present bulk sample testing for ACM or lead.

V. LABORATORY ANALYSIS

In areas where suspect materials have been identified, bulk sample analysis is required to positively confirm the presence of asbestos or lead. Laboratories selected for this analysis shall meet specific accreditation, as well as asbestos and lead identification proficiency program participation requirements. All laboratories used for bulk analysis shall conform to the following:

a. **Sample sets of homogeneous materials for asbestos shall be analyzed until a positive identification of asbestos is made. For example, if Sample #1 of a set of seven is identified as asbestos-containing the other samples are not analyzed and assumed to contain asbestos since they are the same homogenous material.**

b. Be accredited by the American Industrial Hygiene Association (AIHA).

c. Be accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST/NVLAP) for PLM analysis and the Environmental Lead Proficiency analytical Testing Program (ELPAT) for paint chip, dust, and soil analysis.

d. All samples collected for asbestos shall be analyzed using polarized-light microscopy with dispersion staining (PLM/DS). Results indicating >1 - 10% ACM do not require point counting. These results are accepted as asbestos-containing by the government. The laboratory may supply counted results at no additional charge. Results reported as less than 1% asbestos are required to be point counted. A limited number of TEM Analysis may be authorized by the Government to validate some of the negative PLM/DS sample results. Where state or local law requires TEM analysis, analyze samples by PLM/DS first. If results are negative by PLM/DS proceed with TEM analysis.

e. All samples collected for lead shall be analyzed by atomic absorption spectrophotometry (AAS).

f. Provide evidence of internal statistical quality control (i.e., duplicate, replicate, spikes, and blanks, etc.). Provide evidence of external statistical quality control listing inter-laboratory QC results, PAT and/or ELPAT, NIST/NVLAP or other laboratory proficiency program results.

g. Provide an acceptable chain-of-custody record for sample handling and data recording. Ensure the laboratory is provided instructions on sampling protocols as specified.

h. Provide a copy of the laboratory's accreditation prior to sample analysis.

i. Submit duplicate samples (identified in III above) for quality assurance (QA) analysis.

j. Include all laboratory certificates of analyses or test reports as appendices, including QA results.

VI. HAZARDOUS WASTE

Determination of components and materials as hazardous or solid waste for disposal shall be performed in conjunction with site work and in accordance with LANTDIV Instruction 10360.1. Components which will be demolished and disposed as part of the project shall be sampled using the toxicity characteristic leaching procedure (TCLP) for lead in accordance with the provisions of 40 CFR 261, Subpart C. Destructive testing of components is required. Testing includes, but is not limited to collecting subsamples of baseboards, window systems, doors and walls. Collect adequate amounts of subsample materials to provide the requested number of composite samples. Patch and repair occupied areas with suitable materials (joint compound or caulking). Four ounces (110 grams) of material is required for a composite of subsamples. ***Subsamples shall be proportioned to components identified for disposal.*** When decontamination procedures of drill bits or core tools are performed, a rinse water sample shall be submitted for TCLP lead analysis. Enclosure (2) provides additional guidance on waste characterization.

VII. ENVIRONMENTAL TESTING REPORT

Submit a report in accordance with the "Guide for Firms Performing Architect and Engineering (A&E) and other Professional Services for [LANTDIV] (latest version)" and the Environmental Design Guide (latest version). The report shall include drawings with all sample locations, summary table of all test results, summary of wastestream categorization (including volume and percentage calculations for each or total wastestream, and total disposal volumes) and a discussion of how the demolition work should be detailed on the drawings. All assumptions and previous experience data for wastestream characterization shall be clearly documented in the report. The report shall include:

- Name and certificate/license number of building inspector(s)
- Copy of current certificate/license
- Copy of testing laboratory accreditation
- Copy of all laboratory certificates of analysis
- Copy of Asbestos Project Designer accreditation (for design drawings and specifications)
- Copy of Lead Project Designer accreditation (for design drawings and specifications)

The summary tables and sample location maps shall be included in the specifications for the project behind the applicable sections.

VII. PROJECT DRAWINGS AND SPECIFICATIONS

The project drawings shall be prepared as separate "Environmental" drawings with all pertinent information shown: location, dimensions and details of all asbestos, lead, PCB and mercury items. Segregation requirements for demolition debris shall be clearly indicated. Tables and demolition notes shall be used to clearly indicate all hazardous materials. Edit all required specifications to provide project specific directions (i.e. lead demolition is different from lead abatement - the lead specification should be edited for health and safety issues vice abatement removal procedures.) An accredited Asbestos and Lead Project designer as determined by EPA, state and local requirements, shall prepare the

project drawings and specifications. The designer's name(s) shall be indicated on the project specifications under the appropriate title.

ENCLOSURE (1) Field Sampling Procedures:

a. Bulk sampling shall conform to current requirements of applicable established Environmental Protection Agency (EPA) 40 CFR 763 AHERA guidelines; 40 CFR 61 Subpart M; Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101; EPA-560/5-85-030A Asbestos in Buildings-Simplified sampling scheme for surfacing materials; EPA 560/5-85-024 Guidance for Controlling Asbestos-containing Materials in Buildings. Note: Existing surveys may be available. If used follow this guidance: positive sample results may be used but negative sample results may not be used and must be resampled in accordance with AHERA sampling protocols.

b. Comply with all safety and health requirements set forth in OSHA Standard 29 CFR 1910.1001, 29 CFR 1926.1101, 29 CFR 1910.1025 or 29 CFR 1926.62, as appropriate.

c. Repair all suspected ACM and painted surfaces disturbed for sampling purposes to maintain the integrity of the area. Use colored or tinted encapsulates to indicate repairs.

d. Perform sampling in such a way as not to endanger the health of personnel working in the area by ensuring that asbestos fibers or lead dust will not be released during the sampling process. **Sampling in occupied administrative areas shall be performed after normal working hours unless approved by the activity Asbestos Program Manager (APM) or designated representative.**

e. Label each sample and location with a unique sample ID number. This number shall also be on the sampling container sent to the laboratory for analysis. Record the ID number and the sample location on a sampling area sketch (see U.S. EPA Document 560/5-85-030a for guidance on sketches required) and in a chain of custody log or survey form. Provide descriptive location information, such as floor, column and room numbers, to assure rapid identification at any future time by Naval personnel.

f. Take reasonable measures (such as closing doors) to secure an area, which is found to be an imminent hazard. Notify the activity APM or designated representative immediately of the imminent hazard. The activity APM or designated representative will notify the appropriate authority.

Planning, monitoring and directing the survey should be under the direction of either an American Board of Industrial Hygiene (ABIH) Certified Industrial Hygienist (CIH), or Certified Safety Professional (CSP), or Professional Engineer (PE) of any discipline, or Registered Architect (RA), provided that they are appropriately trained and qualified in asbestos work. Appropriate training for the CIH, CSP, PE or RA and those working under his or her direction on the project, shall have completed an EPA approved training course for the specific task in question. Specifically, passing the course examination is required for; the inspection of a building and sampling of subject materials must be conducted by a graduate of the Asbestos Building Inspector Course; the design of abatement projects (plans, specifications and cost estimates) must be conducted by a graduate of the Asbestos Project Designer course; and the review, interpretation and acceptance of project monitoring data must be performed by a graduate of the Asbestos Project Monitor course. The Contractor shall provide proof of compliance by submitting the name, address, telephone number, a copy of the CIH's, CSP's, PE's or RA's-in-charge certification, and evidence of the successful completion of the EPA and/or State course and examination prior to beginning

work in the project. Copies of the training certificates of those working on the project under the direction of the CIH, CSP, PE or RA are also required prior to starting work at the site. No work will be authorized without prior approval and receipt of the required certifications.

ENCLOSURE (2)

Waste Characterization (for building components containing lead):

a. Determine waste streams for the project which will identify waste for disposal. Building components that will be classified as debris shall be sampled to determine whether the waste will be hazardous or solid.

b. Segregate and sample building components by type (doors, windows, etc.) in accordance with 40 CFR 261. The most common components for sampling are wood, wallboard, plaster, cement and brick. Building components such as glass, wiring, aluminum siding, piping, or other recyclables shall not be included in the composite. Submit a single composite sample, consisting of subsamples from a building for TCLP lead analysis for building demolition projects. Submit single composite samples of building segregated components (doors or windows, etc.) for renovation projects. Toxic substances (suspect asbestos, light ballasts, and transformers) shall be sampled and handled separately.

c. The disposal of waste is predicated upon properly identifying and characterizing the wastestreams that will be generated (i.e., all items, components, and debris that will be slated for disposal). In accordance with the Resource Conservation and Recovery Act (RCRA), the characterization of wastestreams for disposal may be based upon any of the following: results of prior testing; prior experience; knowledge of the waste; knowledge of the process generating the waste; analytical testing; or statistical evaluation of laboratory data. For cases wherein a wastestream is characterized by any method other than analytical testing, the basis of such characterization shall be carefully documented for the record.

d. For projects requiring the demolition of entire buildings, current EPA guidance (as provided by Mr. Tim Torma of the Technical Programs Branch, Chemical Management Division in EPA's Washington DC office) indicates that the resulting wastestream (i.e., debris generated by such demolition) shall be disposed of as non-hazardous waste in a construction debris landfill, with no testing required prior to disposal.

e. For projects other than the demolition of entire buildings, LANTDIV Instruction 10360.1 provides guidance on wastestream characterization. The following Table I , "Wastestream Characterizations At-A-Glance" is a summarized chart of information regarding proper characterization of the wastestreams addressed in LANTDIV Instruction 10360.1.

TABLE I

WASTESTREAM CHARACTERIZATIONS AT-A-GLANCE

WASTESTREAM	HAZARDOUS OR NONHAZARDOUS WASTE?
Disposable Work Clothes	Non-hazardous Waste
Disposable Respirator Filters	Non-hazardous Waste
Rugs/Carpets	Non-hazardous Waste
Filtered Wash Water (such as wash water from general cleanup, or from decontaminating surfaces after solvents have been used, or from exterior blasting)	Non-hazardous Waste, but DO NOT arbitrarily discharge effluent to the sewer system or discharge effluent via run-off into surrounding areas. Any discharge to the sewer system must be coordinated with appropriate facility personnel.
Unfiltered Wash Water	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
Paint Chips, Paint Dust	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
Wallpaper	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
HEPA Vacuum Debris, HEPA Filters	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
Sludge from stripping	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
Rags, Sponges, Mops	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
Air Filter Dust, Air Monitoring Cartridges	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
Paint Scrapers	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
Other materials used for testing, abatement, and cleanup	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.
Plastic Sheeting and Tape when a heat gun is used for paint removal	Hazardous Waste
Plastic Sheeting and Tape when chemical removal, abrasive removal, and/or removal/replacement methods are used for paint removal	Non-hazardous Waste
Plastic Sheeting and Tape when encapsulation and enclosure are the abatement methods used	<300 LBS in volume, characterize as hazardous waste. ≥300 LBS in volume, sample and analyze for lead (TCLP) to determine status.

WASTESTREAM	HAZARDOUS OR NONHAZARDOUS WASTE?
Woodwork	If total lead analysis obtained by AAS measurements (for health & safety sampling) indicates lead is ≥4.0 mg/cm2, characterize as hazardous waste. If total lead analysis obtained by AAS measurements (for health & safety sampling) indicates lead is <4.0 mg/cm2, characterize as non-hazardous waste.
Plaster	If total lead analysis obtained by AAS measurements (for health & safety sampling) indicates lead is ≥4.0 mg/cm2, characterize as hazardous waste. If total lead analysis obtained by AAS measurements (for health & safety sampling) indicates lead is <4.0 mg/cm2, characterize as non-hazardous waste.
Windows	If total lead analysis obtained by AAS measurements (for health & safety sampling) indicates lead is ≥4.0 mg/cm2, characterize as hazardous waste. If total lead analysis obtained by AAS measurements (for health & safety sampling) indicates lead is <4.0 mg/cm2, characterize as non-hazardous waste.
Doors	If total lead analysis obtained by AAS measurements (for health & safety sampling) indicates lead is ≥4.0 mg/cm2, characterize as hazardous waste. If total lead analysis obtained by AAS measurements (for health & safety sampling) indicates lead is <4.0 mg/cm2, characterize as non-hazardous waste.
Debris from total demolition of (an entire) building/structure/house	Non-hazardous Waste
Debris from partial demolition/ renovation of a building/structure/ house	Sample and analyze using guidelines provided in Appendix C to determine status.
All other homogeneous wastestreams known or suspected to contain LBP	If there is no information available (no results of prior testing, experience, etc.) sample and analyze using guidelines provided in Appendix B.
All other heterogeneous wastestreams known or suspected to contain LBP	If there is no information available (no results of prior testing, experience, etc.) sample and analyze using guidelines provided in Appendix C.

[DO NOT INCLUDE WITH APPENDIX A TO AE - GOV'T USE ONLY]

GOVERNMENT EDITING INSTRUCTIONS
AND
COST GUIDANCE FOR
ASBESTOS AND LEAD SCOPE OF WORK

EDITING INSTRUCTIONS

BULK SAMPLES FOR ANALYSIS (Edit A/E Scope of Work in General Requirements)

Asbestos and lead paint chip samples are calculated using the following formulae. Assumptions are:

A. An X-ray Fluorescence (XRF) meter is not being used.
B. No previous asbestos survey data is available.

Number of samples for each is estimated by the following:

1. Determine Total Square Footage of building(s) in project

2. Divide Total Square Footage by 400 (Assumes 1 sample per 400 sq. ft) or divide Total Square Meters by 37 (Assumes 1 sample per 37 sq. meters)

3. Round up to nearest 10

EXAMPLE: Housing modernization project of 100 units @ 950 sq. ft/ea.

Total Square Foot = 95,000

Divide by 400 = 237.5 samples

Number of Samples - 240 (for asbestos and 240 for lead)

NOTES:

1. If an activity asbestos survey has been conducted, or building involved has similar rooms throughout (BEQ, BOQ) the number of samples should be reduced by 50%. In the above example, samples would be reduced to 120. [OR reduce the number of samples by the number of positive results from the previous survey.]

2. A building demolition would ADD 10 - 20% to the original total of 240 (i.e. 265 - 290) for Asbestos samples only.

3. If an (XRF) meter is used to screen positive and inconclusive (assumed positive) lead paint, reduce the number of paint chip samples by 50%.

HAZARDOUS WASTE DETERMINATION

If it is an entire building demolition - no sampling is required. If it is a demolition and renovation job with selective demolition, perform in accordance with LANTDIV Instruction 10360.1 and consult with Code 1813, Bobbett Abraham for guidance on the number of samples required.

COST GUIDANCE

Labor Effort (Site Work, Report Prep, Design of Plans and Specs) Asbestos and Lead

Survey (Site Work) with Design Effort is calculated at a rate of 7,500 sq. ft/day (697 sq. meters/day)for a 2 person team. (Twice this rate is used when only lead or asbestos are being investigated - 15,000 sq. ft/day or 1394 sq. meters/day.) This assumes some knowledge of site/building conditions, such as year built, scope of project work, and any previous asbestos or lead results. Site Work ratios are 1 IH to 3 IH Techs, or 1:1 for smaller projects. Estimate asbestos/lead report preparation at 50% of the Site Work labor effort.

Certified Industrial Hygienist(CIH)/Certified Safety Professional (CSP)/Qualified Person(QP) provides Project Mgmt oversight, technical guidance and review/signature of final report. Project Management for the asbestos/lead site work is estimated at 10% of the technical labor effort hours.

Site Work labor is estimated by the following:

1. Determine Total Sq. Ft of building(s) in project
2. Divide Total Sq. Ft by 7,500 sq. ft/day or 697 sq. meters/day
3. Round up to nearest Day

Example:

100 units @ 950 Sq. Ft/each for modernization/repair

95,000 Total sq. ft divided by 7,500 sq. ft/day - 12.6 days

Number of Days = 13 x 2 person team = 26 days (Site Work)

Report Prep @ 50% of Site Work = 13 days

Site Work and Report Prep (Asb and Lead) = 39 days

Asbestos/Lead Design @ 20% of Site work = 3 days

Site Work + Report + Design = 42 days total x 8 hrs per day = 336 hours total

Labor Effort for PCBs and Mercury in Lighting Fixtures:

Site work: Assume 30 fixtures per day can be examined and field notes taken for locations. Take into account the similarity of the buildings or floors.

Design effort: Assume 4 additional hours of design effort to add hazardous waste information to the drawings.

Personnel Hourly Rates (without overhead):

CIH/CSP/QP - $35 - 45 (Similar to Technical Project Manager)
IH/ENGR - $20 - 25 (On-site Coordination & Supervision)
IH Tech - $15 - 20 (Inspection & Sample Collection)
Proj Designer - $25 - 35 (Required for Plans and Asbestos Spec Section)

Sample Analysis (Cost for sample collection is in Labor Effort)

PLM - $12 -16 (Point Counting add $20/sample)
TEM - $100 - 125 (air or bulk)
AAS - $12 - $16 (paint chip, wipe or soil for lead)
TCLP - $70 - $125 (Lead ONLY)

XRF Rental (Averaged at weekly rates only)

Weekly Rental - $400
Own/Operate - $400 per week

Waste Characterization Effort

Perform in accordance with LANTDIV Instruction 10360.1. This effort is labor intensive due to the calculation of volumes of components and sample set up and collection. Sample collection is project dependent, such as replace windows and doors versus total modernization and repair. Typically allow 1-3 days for sample collection depending on size of project. Assume 2 person team to perform sample collection. Sample collection costs are included in the labor and analytical costs are for TCLP analysis. Allow 50% of the labor effort for report preparation.

Other Direct Costs are standard such as Airline tickets, Per Diem, Clerical, Printing & Shipping.

ENVIRONMENTAL FEE PREPARATION GUIDANCE

Preparation of the Government Estimates (GE) of fee for demolition projects that involve environmental concerns such as asbestos, lead containing paint, PCBs or mercury is the same as that for any other A/E project. The GE is prepared in accordance with the Guidelines found in Part 4, paragraph 4.2 of the GUIDE FOR ARCHITECT-ENGINEER IN CHARGE (AIC/EIC).

Demolition/renovation projects with environmental concerns, however, differ from other projects by the significant effort and time involved in up-front research of as-built files. During the development of the Appendix A, the Code 03 PM (with the assistance of Code 04 if needed) should gather all existing as-built drawings and existing environmental reports (asbestos, lead, PCB survey, etc.) These should be passed to the A/E and the 04 AIC/EIC. The Appendix A will include the Scope of Work for Performing Asbestos, Lead, PCBs, and Mercury Surveys for Demolition and Renovation Designs. The PM will have evaluated the existing environmental reports in order to determine the additional testing required for the demolition/renovation project. Guidance for the number of samples required for testing is provided as an attachment to the Scope of Work.

The 04 AIC/EIC shall verify that all available as-builts and existing environmental reports (i.e. asbestos, lead or PCB surveys) are provided by the PM. The information must be assessed for completeness.

After obtaining all information regarding the building, the 04 AIC/EIC shall provide ½ size copies of the necessary plans and reports to all branches that need them for fee preparation. Fee estimates shall include the following:

- Hours for a complete field investigation to verify as-built drawing conditions and/or to develop scaled floor plans of existing conditions.
- A unit price for additional asbestos, lead or TCLP sampling should the A/E encounter suspicious insulation/building material not identified in previous survey reports.
- Hours for the preparation of bid documents (drawings, specifications, and cost estimates.) For jobs with “large” amounts of asbestos, lead, PCBs, or Mercury, separate “ER” sheets are required that provide detailed floor plans, sampling locations and results, details and notes.
- Hours to investigate and confer with the activity to develop a work schedule to relocate people, furniture, and equipment in buildings during the construction phase (IF REQUIRED.)
- Hours for the preparation of the Environmental Report as required by the Appendix A.

Fees shall not include:

- An assumption that extra hours will be required to produce bid documents as a result of the A/E field investigation. Additional A/E compensation for sampling/testing should be addressed following the investigation.